DOCUMENT RESUME

ED 155 793 EA 010 639

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TITLE Suggested Methods for the Identification of Critical Goals. PDE Working Papers, Manual Two.
INSTITUTION Pennsylvania State Dept. of Education, Harrisburg. Bureau of Planning and Evaluation.
PUB DATE 75
NOTE 56p.; For related documents, see EA 010 543-546

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS Correlation; *Educational Objectives; Educational Planning; Elementary Secondary Education; *Evaluation Methods; Factor Analysis; Flow Charts; Guidelines; Q Sort; Rating Scales; Records (Forms)
IDENTIFIERS Pennsylvania

ABSTRACT

A method for determining a school district's ranking of its educational goals, making use of board of education, administration, faculty, and community attitudes toward local needs, is outlined in this document. Written for use in Pennsylvania districts, the manual is designed to serve in conjunction with the state's Educational Quality Assessment (EQA) School Report. The basic steps in the method outlined are (1) form a district committee to (2) report on relationships between district goals (based on EQA goals) and curriculum, (3) have a school committee rank the goals, (4) identify important goals at the district level, (5) produce final priority ranking of the goals, (6) have the faculty and administration review the final ranking, and (7) identify critical goals and write a final report. Appendices outline the basic techniques for assessing the relationships between goal rankings (correlation coefficients) and provide a Q-sort process for indentifying goal priorities that can be used by those unfamiliar with the EQA report or the rationale behind selection of Pennsylvania's Ten Goals of Quality Education. (Author/PGD)

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ED155793

PDE WORKING PAPERS

Manual Two

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Suggested Methods for the Identification of Critical Goals

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1975

EA 010 639

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Preface

Educational Quality Assessment School Report: A Status Profile tells a school district a lot about itself--its teachers, administrators, facilities and students. After the staff and administration become familiar with the report, they have the task of identifying applicable areas of need or concern.

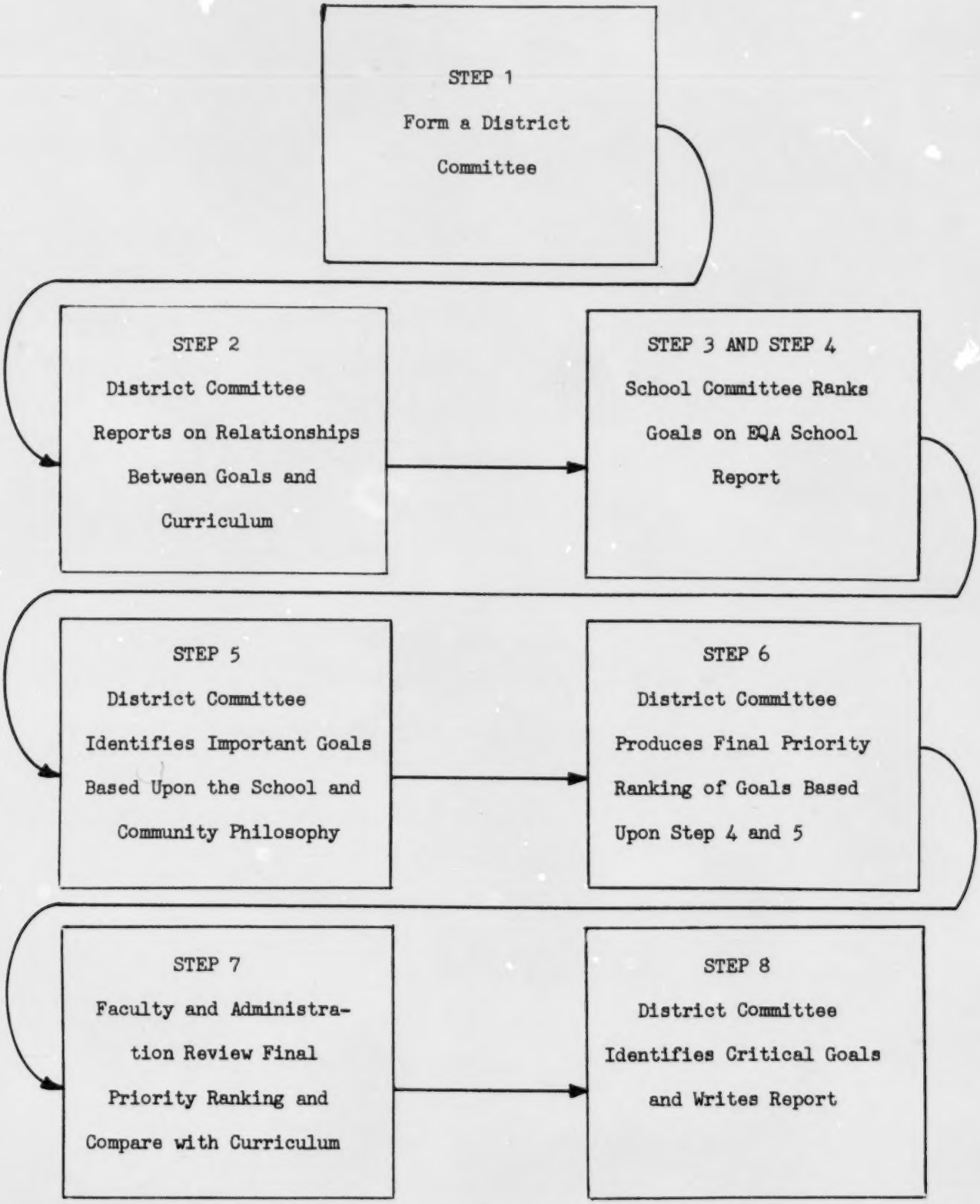
The school report uses four distinctive methods of reporting school results. Each method has certain strengths and weaknesses, creating a dilemma as to which method is the most informative and should be used as a basis for curricular decision-making.

One might philosophize that the only fair comparison of a given school's data is to compare its scores with scores of "similar" districts (predicted score range). An alternative view might be that priorities based upon state-wide rankings or percentiles are an appropriate measure, since the students must eventually compete with others in the state. Still another view is that criterion-referencing is the most revealing measure, thereby suggesting that a school's ultimate objective would be to have 100 per cent of its students possess a favorable attitude, i.e., "pass" a particular scale. The challenge of selecting a single type of scoring and interpreting this scoring is not easily resolved. Furthermore, school districts vary widely in their educational philosophies, and their own priorities, which must be considered when areas of need are identified.

This document outlines a procedure to help school districts determine a rank order for the Ten Goals of Quality Education, based upon their EQA school report, their own unique educational philosophy and the philosophy of the community.

It is important to note that the weightings indicated for each type of scoring are only suggested values. If the district deems these weights unsatisfactory or untenable, it can use other weights. Before it identifies critical goals, the faculty should become familiar with the entire EQA school report. A district-wide curriculum committee may then develop a priority ranking of the Ten Goals of Quality Education, basing its decisions on the school and community philosophy, while a school committee develops a priority ranking based upon the EQA data. In the final analysis, however, the identification of critical goals will be partly subjective and partly objective. Ensuing value judgments must be made by the individual school district for each school within the district.

FLOW CHART


STEP 1
Form a District Committee
STEP 2
District Committee Reports on Relationships Between Goals and Curriculum
STEP 3 AND STEP 4
School Committee Ranks Goals on EQA School Report
STEP 5
District Committee Identifies Important Goals Based Upon the School and Community Philosophy
STEP 6
District Committee Produces Final Priority Ranking of Goals Based Upon Step 4 and 5
STEP 7
Faculty and Administration Review Final Priority Ranking and Compare with Curriculum
STEP 8
District Committee Identifies Critical Goals and Writes Report

Step 1. Form a districtwide committee.

This committee, composed of members from all district schools is necessary to coordinate the identification of critical areas of need. The tasks of this committee would be to:

a. Coordinate the entire process outlined in this manual.

b. Study each of Pennsylvania's Ten Goals of Quality Education and write a clear, concise report outlining the rationale for each goal and the relationship of the goal to the present school curriculum.

c. Establish school building committees, each having representation on the districtwide committee.

d. Determine "important" goals based upon the school and community philosophy (Step 5).

e. Combine priorities based upon the school report (Step 3 and Step 4) with priorities based upon school and community philosophy (Step 5) to determine a final priority ranking (Step 6).

f. Coordinate faculty and administration review of the final priority ranking (Step 7).

g. Write a final report.

Step 2. Generate a report on the relationship of each goal to the present curriculum.

The district committee should study Pennsylvania's Ten Goals of Quality Education and write a clear, concise report outlining the rationale for each goal and the relationship

of the goal to the present school curriculum. This report should be made available to the school committees and be used in Step 7 to compare the present curriculum with identified priorities.

Step 3. Form a committee for each school within the district, giving it the task to rank the goals based upon a composite weighting of the raw scores, predicted scores, statewide percentile rankings and the criterion-referenced scores contained in its school report.

In addition to the district committee, a five- to eight-member school committee is needed for each school since a separate and unique report is generated by EQA for each district school having 5th, 8th or 11th grade students. These school committees should be represented on the district committee. The tasks of a school committee are to:

a. Study the report written by the districtwide committee in Step 2.

b. Rank the goals as described in Step 4.

c. Report to the school faculty as needed or as directed by the district committee.

d. Conduct surveys of the faculty and students to determine philosophically "important" goals (as directed by the district committee).

Step 4. From the school report, quantify a composite goal-weighting for each goal and rank the goals on this composite weighting.

The school committees identified in Step 3 will study, for the appropriate grade level, the EQA Manual for Interpreting School Reports. Using its school report and Form EQA-10, the committee should complete columns A, B, C and D and, in addition, rank the goals, using the weights in column D.

a. Compare each goal score (School Score) with the predicted band (Predicted Score Range) and record the appropriate weighting under column A on Form EQA-10.

6 points for school score above the predicted band.

3 points for school score within the predicted band.

0 points for school score below the predicted band.

(See Figures 1 and 2)

Goal	Area	Number Students	School Score	School %ile	Predicted Score Range
I	Self Esteem	280	57.94	4	56.60-58.91
II	Understanding Others	280	58.44	46	57.85-59.31
III-V	Basic Skills: Verbal	286	14.90	15	15.14-16.14
III-M	Basic Skills: Math	286	16.77	22	15.40-16.47

(From 1974 EQA School Report)

Figure 1

Form EQA-10

	A	B	C	D (A+B+C)	E	F
I	3					
II	3					
III-V	0					
III-M	6					

Figure 2

b. Record in the appropriate row under column B the number obtained by rounding your school percentile ranking to the nearest 10, divided by 10. For example, the 4th percentile for Goal I rounds to zero, and zero divided by 10 is zero. For Goal II, the 46th percentile rounded to the nearest 10 is 50 and 50 divided by 10 is 5. For Goal III-V, the 15th percentile rounds to 20 (when the last digit is five, round to the next highest multiple of 10), and 20 divided by 10 is 2. (See Figures 1 and 3).

Form EQA-10

	A	B	C	D (A+B+C)	E	F
I	3	0				
II	3	5				
III-V	3	2				
III-M	6	2				

Figure 3

c. For all goals except III-V and III-M in grades 5, 8 and 11, VIII in grades 5 and 8, VIII-K in grade 11, and VI in grade 5, find from the Summary of Criterion Referenced Information table the per cent of your students "passing" the total scale at the 51 per cent criterion level. Round the per cent of local students "passing" the total scale to the nearest 10 per cent and divide by 10. Record this number in column C of Form EQA-10. For example, 64 per cent of the district's students have "passed" the total Goal I scale (Figure 4). Sixty-four rounds out to 60 and 60 divided by 10 is 6. Record a 6 for Goal I, under column C (see Figure 5).

For Goal II about 82 per cent of the district's

SUMMARY OF CRITERION-REFERENCED INFORMATION

Goal	Subtest Name	Criterion Levels 35% State*	35% Local	51% State*	51% Local	70 State*
I	Self-Confidence	91%	90%	74%	61%	63%
	Feeling of Control Over Environment	97%	92%	85%	68%	74%
	Relationships With Others	95%	90%	83%	71%	73%
	Self-Image In School	79%	72%	56%	44%	42%
	Total Scale	98%	81%	84%	64%	57%
II	Race	82%	77%	69%	67%	52%
	Religion	84%	84%	72%	71%	
	Socioeconomic Status	92%	94%	80%	79%	
	Intelligence	84%	84%	55%	60%	
	Handicap	91%	94%	77%	82%	
	Total Scale	95%	98%	79%	82%	
IV	Attitude Toward Learning	92%	97%			
	Attitude Toward School	82%				
	Attitude					

(From EQA School Report)

Figure 4

Form EQA-10

	A	B	C	D (A+B+C)	E	F
I	3	0	6			
II	3	5	8			
III-V	3	2				
III-M	6	2				

Figure 5

students have "passed" the scale; 82 rounds out to 80 and 80 divided by 10 is 8. Record an 8 for Goal II under column C.

The cognitive Goals (III-V and III-M in grades 5, 8 and 11, VIII in grades 5 and 8, VIII-K in grade 11 and VI in grade 5) are not scored through the use of criterion-referencing. Instead, a type of distribution table which indicates the per cent of students statewide scoring in each approximate "quintile" is printed. In addition to the statewide figures, the per cent of the local school's students scoring in each "quintile" are shown. To weight these goals, use the following procedure:

Sum the per cent of state students in the two highest quintiles and call the sum X. Sum the per cent of local students in the top two quintiles and call the sum Y:

If Y is less than X, score 2 points and record in column C.

If Y equals X, score 5 points and record in column C.

If Y is greater than X, score 8 points and record in column C.

For instance, for Goal III-V (Figure 6):

X = 20% + 18% = 38%

Y = 17% + 20% = 37%

Since Y is less than X, score 2 points for Goal III-V in column C (Figure 7).

For Goal III-M (Figure 6):

X = 21% + 19% = 40%

Y = 20% + 20% = 40%

Since Y equals X, score 5 points for Goal III-M in column C (Figure 7).

Goal III-V Basic Skills: Verbal

Student Distribution

Goal Score	State Norm	School Actual
*21-30	*20%	17%
*18-20	*18%	20%
*15-17	*18%	19%
*11-14	*22%	22%
* 0-10	*20%	22%

Goal III-M Basic Skills: Math

Student Distribution

Goal Score	State Norm	School Actual
*21-30	*21%	20%
*17-20	*19%	20%
*14-16	*18%	17%
*10-13	*23%	24%
* 0-9	*19%	19%

*Note: These figures will vary from year to year and grade to grade.

(From the EQA School Report)

Figure 6

Form EQA-10

	A	B	C	D (A+B+C)	E	F
I	3	0	6			
II	3	5	8			
III-V	3	2	2			
III-M	6	2	5			
IV						

Figure 7

The final task in ranking the goals in a priority order based upon the EQA school report is to record in column D the sum of columns A, B and C. Using this sum, rank the goals on Form EQA-10. The lowest priority goal will have the greatest sum (A+B+C) and the highest priority goal will have the smallest sum.

Step 5. Identify "important" goals in light of the school and the community philosophy and design a report for each goal.

Parents, school board members, students, teachers and community groups should be involved in the determination of school district priorities. By a survey of each of these groups a priority-weighting for every goal, by group, can be determined. These weightings

should then be averaged across groups to obtain a final philosophical goal weighting.

An example of how this might be accomplished is illustrated in Figure 8. Each member of the school board "group" identifies the three goals he or she considers <u>most important</u> and scores 0 points for those goals. Next, the member identifies the three goals he or she considers <u>least important</u> and scores 6 points for those goals. The remaining goals each receive 3 points.

In the example (Figure 8), board member A considered goals III-V, III-M and VIII <u>most important</u> and goals I, V and X <u>least important</u>. Board member B identified goals I, III-V and V as high priority (<u>most important</u>) and II, VI and X as low priority (<u>least important</u>).

Group weightings may be found by averaging the individual weightings.

Goal I: $6 + 0 + 3 + 6 + 3 + 3 + 3 + 6 + 3 = 33$

$33 \div 9 = 3.66$

Goal II: $3 + 6 + 3 + 6 + 0 + 6 + 3 + 6 + 3 = 36$

$36 \div 9 = 4.00$

A final weighting, based upon the philosophies of each of the groups involved, can be determined by averaging the group weightings (Figure 9). For example:

Goal I: $3.66 + 3.1 + 2.8 + 2.9 + 3.0 = 15.46$

$15.46 \div 5 = 3.09$

Goal II: $4.0 + 2.8 + 3.0 + 3.7 + 3.6 = 17.1$

$17.1 \div 5 = 3.4$

For some groups, such as the school board and, perhaps, the students, every member can be sampled. Other groups, such as parents and community organizations, may be sampled on a random basis.

Example:

Board Members

		A	B	C	D	E	F	G	H	I	Average
Goal	I	6	0	3	6	3	3	3	6	3	3.66
	II	3	6	3	6	0	6	3	6	3	4.0
	III-V	0	0	0	0	6	0	3	0	0	1.0
	III-M	0	3	0	0	6	0	3	0	0	1.25
	IV	3	3	0	3	6	3	6	0	0	2.0
	V	6	0	3	3	3	3	0	3	3	2.0
	VI	3	6	6	6	0	6	3	3	6	3.25
	VII	3	3	3	3	3	6	0	3	3	2.25
	VIII	0	3	6	0	3	0	6	3	3	2.0
	IX	3	3	3	3	0	3	6	6	6	2.9
	X	6	6	6	3	3	3	0	3	6	3.0

Sample Goal Weightings By A Nine Member School Board

Figure 8

Example:

	School Board	Faculty	Adm.	Students	Community	Total	Average
Goal I	3.66	3.1	2.8	2.9	3.0	15.46	3.09
II	4.0	2.8	3.0	3.7	3.6	17.1	3.4
III-V	1.0	1.8	2.0	1.3	etc.	etc.	etc.
III-M	1.25	1.4	etc.	etc.			
IV	2.0	3.9					
V	2.0	etc.					
VI	3.25						
VII	2.25						
VIII	2.0						
IX	2.9						
X	3.0						

Sample Average Goal Weightings By Each Of Five Groups

Figure 9

It is important that the groups being surveyed have some explanation or discussion of each goal prior to this activity.

The Q-sort described in Appendix B is an alternative process which may be used to rank the goals on a philosophical basis. The Q-sort precludes an extensive explanation of each goal.

After the average weightings for each group are calculated (Figure 9), the goals should be ranked on Form EQA-10.

In addition, the district committee should write a report relating the findings of this activity, including some notation as to how each goal was viewed by the various groups surveyed.

Step 6. Combine the data obtained from Step 4 and Step 5 to produce a priority ranking based upon the school philosophy, the community philosophy and the school report.

This step involves a procedure designed to combine the data on the school report with the school and the community philosophy to obtain a final priority ranking of the goals.

a. From the priority ranking based upon the school and the community philosophy (Step 5) record a weight of 0 in column E of Form EQA-10 for the four goals having the highest priority. Next, record the number 6* in column E for the four goals having the lowest priority. Finally, record a 3 for the remaining goals. (Record similar weightings for "ties.")

*Note: This weight is equivalent to being outside of the predicted band (column A, Step 4). Districts may wish to change the suggested weights for philosophical rankings.

b. Sum columns D and E on Form EQA-10 for each row and record in column F.

c. Rank the goals on Form EQA-10 on the basis of the weightings in column F. The highest priority is given to the goal with the lowest number recorded in column F.

Step 7. Have entire faculty and administration, along with representatives of the school board and community, discuss the priority rankings on Form EQA-10 and the relationship of all goals to the school curriculum.

This activity should be accomplished building by building. If the staff is large, smaller study groups might be formed.

a. Beginning with the highest priority goal from column F on Form EQA-10, study the final rankings and compare them with your school philosophy, using the district committee report from Step 5.

The following questions are some that should be discussed, after which the administration and the faculty must make a subjective decision as to which goals should be considered "critical needs."

1. What are we doing about this goal area now?
2. How do our students really feel about this goal? (Perhaps class discussions with students may add insight to the goal.)
3. Does the community support this goal and its rationale? (PTO's and PTA's may use this question for discussion.)

4. How does the teachers' association feel about the goal?

5. Do the administration and school board consider this goal important?

6. How do school scores on this goal relate to other highly ranked goals? (See Appendix A, "How the Goal Scores Cluster.")

Step 8. Identify those goals that appear to be critical or in need of attention and write a report.

On the basis of the previous steps and the resulting discussions, a final set of critical goals can be established and described in a report. The report should include the following topics:

a. Priority ranking of goals based upon EQA School Report, obtained from column D on Form EQA-10.

b. Priority ranking of goals based upon school and community philosophy, obtained from column E on Form EQA-10.

c. Priority ranking of goals based upon the composite of the EQA School Report and the school and community philosophy, obtained from column F on Form EQA-10.

d. List of most critical goals.

e. Rationale for each of the critical goals and how it relates to the school philosophy and the present curriculum.

Form EQA-10

	A	B	C	D (A+B+C)	E	F
I						
II						
III-V						
III-M						
IV						
V						
VI						
VII						
VIII-A						
VIII-K						
IX						
X						

	School Report Rank From Step 4 (Column D)	Philosophy Rank From Step 5 (Column E)	Philosophy And School Report Rank From Step 6 (Column F)
	Goal	Goal	Goal
Highest Priority (Lowest Sum)	___	___	___
	___	___	___
	___	___	___
	___	___	___
	___	___	___
	___	___	___
	___	___	___
	___	___	___
	___	___	___
	___	___	___
	___	___	___
Lowest Priority (Highest Sum)	___	___	___
	___	___	___

A P P E N D I X A

RELATIONSHIP BETWEEN GOAL SCORES

RELATIONSHIP BETWEEN GOAL SCORES

Pennsylvania's Ten Goals of Quality Education are not independent of each other. In fact, they seem to group into three or four overlapping clusters or factors which can be identified by a variety of statistical procedures. One procedure is the use of the correlation coefficients between goal scores; and second is the use of correlations between each goal or subgoal score and an abstract factor score. The latter method is called factor analysis.

Neither of these procedures is neat and clean. Both rely on some human decisions and both require some compromises. The methods are sound, however, and the results may permit school administrators to make educational decisions that have the potential to affect scores on several, or even all, of the goals within a given cluster.

Initially the EQA tests were designed for grades 5 and 11. In 1972-73 a new battery was administered to grades 7 and 9. Since 1974, grades 5, 8 and 11 have been tested. The following discussion considers 1973 data from grade 9 and 1974 data from grades 5, 8 and 11 in an attempt to cluster the goals.

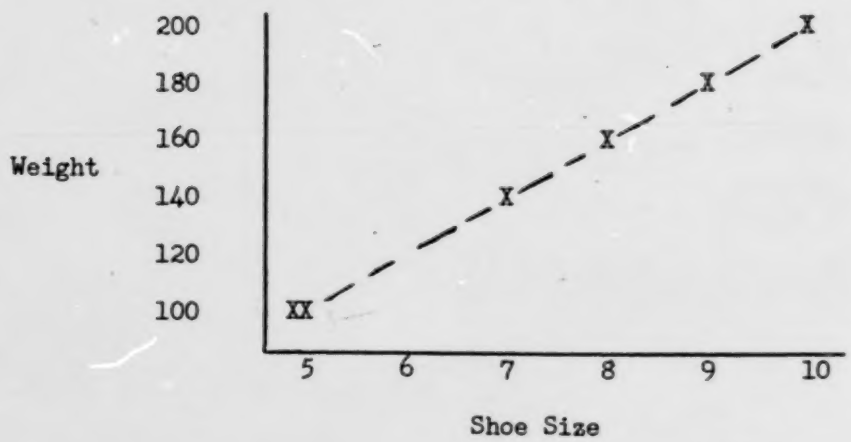
A word about correlation coefficients may be in order prior to such discussion. The Pearson product moment correlation coefficient indicates how two variables relate. The underlying assumptions are theoretical and will not be discussed in great detail. It is enough to say that the coefficients range from -1.0 to +1.0 and that the greater the absolute value, the closer the relationship. If the coefficient is -1.0 or +1.0, the relationship is perfect and one can predict, with 100 per cent accuracy, one variable if given the other.

An example may prove helpful. Suppose we have six males and wish to find the correlation between their weight and their shoe size, perhaps to predict a man's shoe size given his weight. First, we measure both variables for each subject and then graph the ordered pairs of measures (shoe size, weight) for the given sample of men (Table 1, Figure 1).

Table 1

	Weight	Shoe Size
Joe	103	5
Sam	163	8
Chris	143	7
Jim	183	9
Jack	203	10
Alvin	103	5

Figure 1



Notice that the points on the graph representing the pairs of numbers (shoe size, weight) relating to each subject lie on a straight line. The correlation between these two variables is 1.0 and, if the sample were representative of the male population as a whole, one could predict exactly a man's shoe size if given his weight, or his weight if given his shoe size. The equation generated from this data would be:

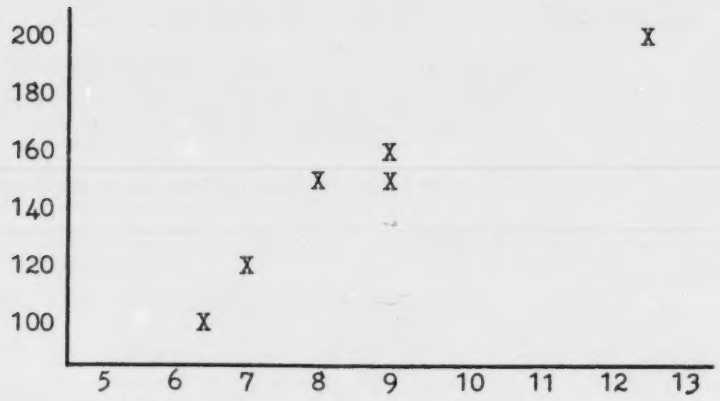
$$\text{Weight} = 20\ (\text{Shoe Size}) + 3$$

Human attributes are not that simple, however. A more realistic set of data might be the following:

Table 2

	Weight	Shoe Size
Moe	105	6 ½
Mike	120	7
Malcolm	155	8
John	195	12 ½
Irving	160	9
Bill	155	9

Figure 2



Here the relationship is not perfect, and the correlation is something in the neighborhood of .90. We cannot predict the exact shoe size from weight, or visa-versa. The best we can say is that heavier men tend to have larger feet. More precisely, 81 per cent (the square of the correlation coefficient) of the variance of men's shoe sizes can be accounted for by a knowledge of their weight.

A negative correlation coefficient indicates an inverse relationship. For example, if the relationship between an adult's age and the number of natural teeth he or she has is -.70, it means that as an adult grows older the adult tends to have fewer teeth. The relationship is not perfect. However, given an adult's age, one could predict with a certain degree of success the number of natural teeth the person has.

Looking now at grade 8 data (Table 4), the correlation between mean school scores on Goal IV and Goal IX is 67. This implies that schools with high mean scores on Goal IV tend to have high mean scores on Goal IX. On the other hand, the correlation between Goal IV and Goal VII is -.03, which implies little or no relationship between these two goals. This suggests that schools with high mean scores on Goal IV are equally likely to be high or low on Goal VII.

Similarly with individual students, the correlation between their Goal IV score and their Goal IX score is .54. This is not as great as the school mean correlation coefficient; therefore, the relationship is not as great. However, it implies that individual students scoring high on Goal IV tend to score high on Goal IX, and students scoring low on Goal IV tend to score low on Goal IX. A coefficient of .11 between individual student's scores on Goal IV and Goal VII suggests that very little relationship exists between these two goal scores. Students scoring high on Goal IV are about as likely to score low as they are to score high on Goal VII. In other words, <u>interest in school</u> does not appear to relate to <u>creativity</u> as measured by EQA instruments.

Table 3

Grade 5 (1974)
Goal IV Interest in School
Correlation Coefficients

School (n=354)		
.64*	V	Citizenship
.49*	X	Changing World
.48*	II	Understanding Others
.43*	IX	Human Accomplishments
.38*	I	Self-Understanding
.26*	VII	Creativity
.06	III-M	Basic Skills Math
.04	VIII	Vocational Development
.01	VI	Health
.00	III-V	Basic Skills Verbal

Table 4

Grade 8 (1974)
Goal IV Interest in School
Correlation Coefficients

Students (n=3459)	School (n=236)		
.54* (.54*)	.67* (.73*)	IX	Human Accomplishments
.49* (.46*)	.65* (.72*)	X	Changing World
.44* (.48*)	.58* (.56*)	VI	Health Habits
.44* (.49*)	.56* (.52*)	V	Citizenship
.39* (.40*)	.41 (.39)	I	Self-understanding
.25* (.33*)	.33* (.43*)	II	Understanding Others
.20* (.23*)	.11 (-.11)	VIII	Vocational Knowledge
.21* (.26*)	.09 (-.15)	III	Basic Skills Verbal
.21* (..9*)	.06 (-.17)	III	Basic Skills Math
.11* (.10*)	-.03 (.08)	VII	Creativity

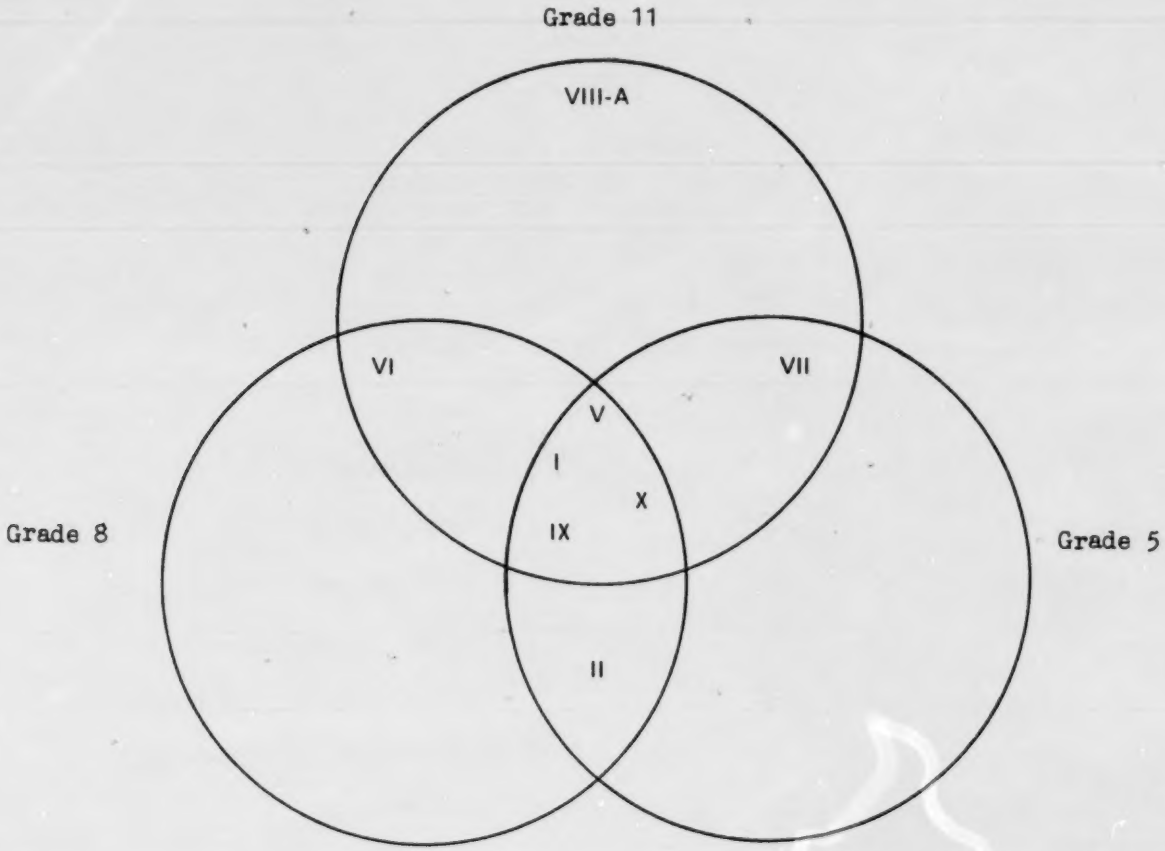
*Significant at the .05 level
( ) 1973, Grade 9 data

Table 5
Grade 11 (1974)
Goal IV Interest in School
Correlation Coefficients

School (n=189)		
.42*	I	Self-Understanding
.38*	IX	Human Accomplishments
.33*	VIII-A	Vocational Attitude
.27*	V	Citizenship
.25*	VII	Creativity
.24*	X	Changing World
.22*	VI	Health
.17*	III-V	Basic Skills Verbal
.15*	II	Understanding Others
.12	III-M	Basic Skills Math
.10	VIII-K	Vocational Knowledge

*Significant at the .05 level

Using Goal IV as an arbitrary starting point and considering remaining goals which are highly correlated with Goal IV (Tables 3, 4 and 5), you see the following picture emerging:



Goals Having Greatest Correlation With Goal IV

Figure 3

Goals I, V, IX and X are common to all three grades with respect to their strong relationship with Goal IV. In other words, schools scoring high on Goal IV have a tendency to score high on Goals I, V, IX and X in grades 5, 8 and 11.

Table 6

Grade 5 (1974)
Goal III Basic Skills - Verbal
Correlation Coefficients

Schools (n=354)		
.86*	III-M	Basic Skills - Math
.82*	VI	Health
.81*	VIII	Vocational Development
.48*	X	Changing World
.47*	I	Self-Understanding
.46*	IX	Human Accomplishments
.28*	VII	Creativity
.25*	II	Understanding Others
.18*	V	Citizenship
.00	IV	Interest in School

*Significant at the .05 level

Table 7

Grade 8
Goal III-V Basic Skills - Verbal
Correlations Coefficients

Students (n=3459)	Schools (n=236)		
.69* (.66*)	.92* (.85*)	III	Basic Skills - Math
.64* (.58*)	.90* (.88*)	VIII	Vocational Knowledge
.23* (.26*)	.32* (.33*)	I	Self Understanding
.24* (.26*)	.28* (-.07)	IX	Human Accomplishments
.18* (.21*)	.27* (.24)	II	Understanding Others
.25* (.23*)	.25* (-.07)	VI	Health Habits
.14* (.17*)	.09 (-.14)	V	Citizenship
.21* (.26*)	.09 (-.15)	IV	Interest in School
.24* (.21*)	-.05 (-.09)	X	Changing World
-.11* (-.11*)	-.33* (-.36*)	VII	Creativity

*Significant at the .05 level
( ) 1973 Grade 9 data

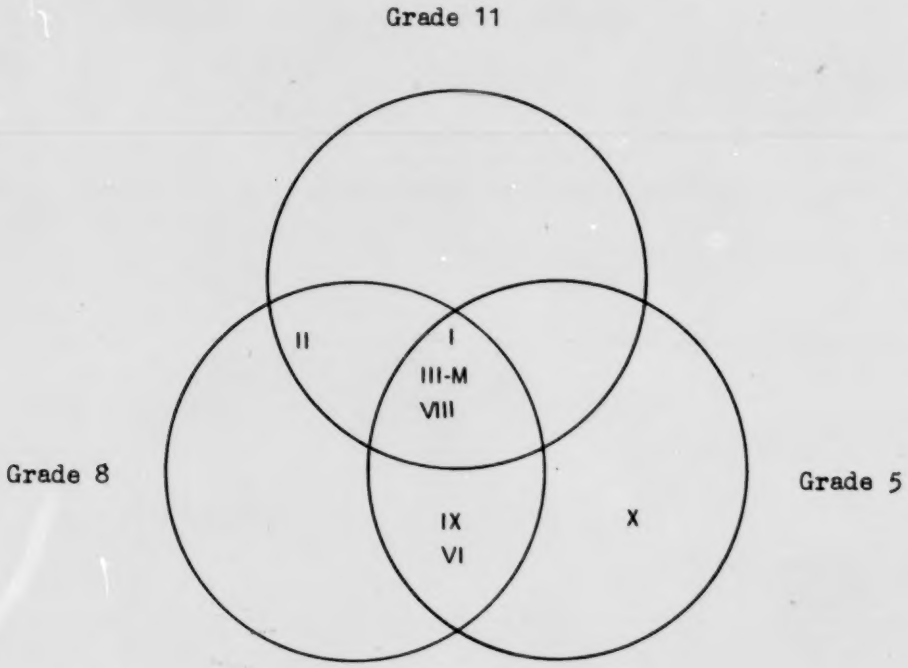
Table 8

Grade 11 (1974)
Goal III Basic Skills = Verbal
Correlation Coefficients

Schools (n=189)		
.91*	VIII-K	Vocational Knowledge
.90*	III-M	Basic Skills - Math
.31*	II	Understanding Others
.27*	VIII-A	Vocational Attitude
.23*	I	Self Understanding
.18*	V	Citizenship
.17*	IV	Interest in School
-.04	VII	Creativity
-.15*	VI	Health
-.18*	X	Changing World

*Significant at the .05 level

A similar procedure, using Goal III-Verbal (a cognitive goal) as an arbitrary starting point and considering the remaining goals which are highly correlated with Goal III-Verbal, (Tables 6, 7 and 8) produces the following picture (Figure 4):



Goals Having Greatest Correlation With Goal III-V

Figure 4

Goals III-M, VIII-K and I are common to all three grade levels with respect to their relationship with Goal III-V. In other words, schools scoring high on Goal III-V have a tendency to score high on Goals III-M, VIII-K and I in grades 5, 8 and 11.

Goals II, VI and VII do not appear to belong to either of the two groups previously discussed, when all three grade levels are considered. However, for grades 8 and 11, Goal VI might be included in the first group and Goal II might be included in the second group.

A factor analysis performed on a sample of 3,400 eighth grade students is shown in Table 9. The analysis used the goal subscales as basic variables and computed factor loadings for 2, 3, 4, 5, 6, 7, 8, 9 and 10 factors. Only the four factor data are shown.

Table 9

Factor Analysis on a Sample of 3400 Grade 8 Students

GOAL		FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
I	SELFCONF			0.65162	
	CONTLENV	0.31481		0.65109	
	RELATE		0.25686	0.58725	
	SHLIMAGE	0.27685		0.64420	
II	RACE				0.75972
	RELIGN				0.67347
	SES				0.76673
	IQ				0.70042
	HANDCP	0.25993			0.70650
III	GOAL 3V		-0.28901	0.61777	
	GOAL 3M		-0.28191	0.60846	
IV	LEARN	0.57971		0.31272	
	SCHOOL	0.57713		0.40521	
V	WELFOTHR	0.67791			0.29752
	LAWAUTH	0.81469			
	RESPBLTY	0.72092			0.25604
VI	PERSHEAL	0.69464			
	SAFETY	0.72106			
	DRUGS	0.64166		0.28517	
VII	VISART		0.79548		
	PERFART		0.83302		
	SCIENCE		0.81497		
	WRITING		0.79144		
VIII	GOAL 8		-0.29133	0.60085	
IX	VALUING	0.39636		0.44118	0.28536
	RECEIV	0.45659	0.28159		0.26356
X	EFFSOLN	0.56417			
	INEFSOLN	0.58488		0.30137	
	EMOTADJ				

Several conclusions may be drawn when the information from the 8th grade factor analysis (Table 9) is combined with the analysis of the highly correlated goal scores.

First, there is a cognitive factor (Factor 3) or group of goals that is cognitive in nature. Goals III-V, III-M and VIII-K are knowledge-related; and, as expected, schools that score well on one of these goals tend to score well on all three. In addition, Goal I and Goal IV have some relationship to the factor. It seems reasonable to conclude that a cluster of goals, all of which may be influenced by the same intervention techniques, would include:

CLUSTER A: I, III-V, III-M, IV, VIII

Next, there is an affective cluster (Factor 1) or group of goals that concerns attitudes and behaviors. Goals IV, V, VI, IX and X are contained in this cluster. In addition, Goal I has some relationship to this factor.

CLUSTER B: I, IV, V, VI, IX, X

Goals II and VII do not appear to belong to either cluster, nor do they form a cluster with each other. It appears, then, that perhaps Goal II and Goal VII stand alone and that specific and unique intervention techniques might be required for these two goals.

CLUSTER C: II

CLUSTER D: VII

The purpose of this discussion and the identification of clusters of goal scores is to permit generalizations about groups of goals. Schools scoring high on one goal in a given cluster have a tendency to score high on the other goals within that cluster. This realization permits the development of intervention hypotheses that may influence several, if not all, of the goals within the cluster.

A P P E N D I X B

Q-SORT ACTIVITY

Q-SORT ACTIVITY

The Q-Sort activity* provides schools a systematic procedure for the identification of a philosophical priority ranking of Pennsylvania's Ten Goals of Quality Education. The descriptions and objectives described in each statement in the Q-Sort preclude any knowledge on the part of the participant, of the goals, the goal rationale or the method of measurement.

The activity can be accomplished in several ways. One is to have each member of the survey sample mark the appropriate weight, (1=Extremely Important, 2=Very Important, 3=Important, 4=Slightly Important, 5=Unimportant) for each Q-Sort statement on pages 45 to 52. An alternative is to cut each page into Q-Sort cards and have the participants sort the cards into five envelopes labeled Extremely Important, Very Important, Important, Slightly Important, Unimportant. A third procedure would be to make transparencies of each card which may be displayed to a group, permitting each participant to mark the tally form, QST-2, in the appropriate manner.

The general procedure is to read each statement (student outcome) and determine the importance of that statement or outcome to a student's basic education. When all 44 statements, (eight statements for Goal III, four for all other goals) are classified (weighted) with respect to relative importance, total weightings should be calculated for each goal.

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*The author is indebted to Dr. J. E. Ferderbar, Superintendent, Neshaminy School District, for his initial research in conjunction with the ultimate development of this Q-Sort technique.

If every individual is given a set of cards, the following procedure should be used:

1. Have the individual read each card, determine the importance of the statement or objective on the card to students in elementary or secondary school, and place the card in one of five envelopes marked:
   - Extremely Important (1)
   - Very Important (2)
   - Important (3)
   - Slightly Important (4)
   - Unimportant (5)

   No effort should be made to equalize the number of cards in each envelope.
2. Record on the Q-Sort tally form, QST-2, a weight corresponding to the number of the card (1, 2, 16, 28, etc.), and the importance placed upon the statement contained on the card.
3. All QST-2 forms should be collected and from these a composite tally on form QST-1 should be constructed.
4. For each goal, sum the tally marks on QST-1 for the Extremely Important column, and record in TTL (total) row. Repeat the process for the remaining four "importance" classifications.
5. Multiply the number recorded in each TTL cell by the "importance" weighting, (1 for Extremely Important, 2 for Very Important, etc.) and record in the WT/TTL (weighted total) cell.

6. For each goal, sum the WT/TTL row to determine the final priority weighting, and record this number in the FP/WT cell for that goal.
7. Rank the goals from high priority (Extremely Important), identified by low weighted totals, to low priority (Unimportant) identified by high weighted totals.

If the Q-Sort activity is to be accomplished in a group setting, with the use of an overhead projector, statements and their corresponding numbers should be placed in a random order on transparencies. Each participant should be given a Q-Sort tally form, QST-2, and, as the statements are placed on the overhead, their priority weight or importance can be recorded directly on the upper part of the form.

Next, each person should rerecord the weights beside the appropriate statement number on the bottom of form QST-2 and then sum the weights for each goal. Before returning the form, individuals may wish to rank the goals, with low scores having the highest priority. When all of the forms have been returned, a final group weighting for each goal can be determined by summing the total weight (TTL) for that goal from each QST-2 form.

If the Q-Sort activity is to be mailed or otherwise distributed, the statements and their corresponding numbers can be used as printed on pages 45 to 52. These lists, along with directions to circle the appropriate level of importance for each student outcome, should be distributed and requested to be returned. Upon return, they can be tallied, weighted and ranked as described for individuals using the cards.

In order to weight each of several survey groups equally, use the following procedure:

1. Find the average (mean) Q-Sort score for each goal by dividing the Final Priority Weighting (FP/WT) by the number of persons included in the group.
2. Rank the goals on the mean Q-Sort scores for each group and place the mean score with the goal. This may result in very dissimilar rankings.

Example

School Board		Faculty		PTA	
Goal I	3.02	Goal III V	3.10	Goal V	3.11
Goal III V	3.11	Goal III M	3.14	Goal III M	3.20
Goal II	3.15	Goal I	3.25	Goal X	3.34
Goal III M	3.21	Goal VIII	3.28	Goal IV	3.41
Goal VIII	3.34	Goal IV	3.30	Goal VI	3.50
Goal IX	3.71	Goal VI	3.36	Goal II	3.55
Goal X	3.80	Goal V	3.41	Goal IX	3.71
Goal IV	3.92	Goal II	3.52	Goal VII	3.80
Goal VI	4.01	Goal IX	3.90	Goal I	3.86
Goal V	4.32	Goal VII	4.10	Goal III V	4.01
Goal VII	4.70	Goal X	4.30	Goal VIII	4.31

3. Sum the mean Q-Sort scores for each goal and rank the goals on these sums to obtain a final philosophical ranking.

Example

Goal I = 3.02 + 3.25 + 3.86 = 10.13

Goal II = 3.15 + 3.52 + 3.55 = 10.22

Goal III V = 3.11 + 3.10 + 4.01 + 10.22

Goal III M = 3.21 + 3.14 + 3.20 = 9.55

Goal IV = 3.92 + 3.30 + 3.41 = 10.63

Goal V = 4.32 + 3.41 + 3.11 = 10.84

Goal VI = 4.01 + 3.36 + 3.50 = 11.87

Goal VII = 4.70 + 4.10 + 3.80 = 12.60

Goal VIII = 3.34 + 3.28 + 4.31 = 10.93

Goal IX = 3.71 + 3.90 + 3.71 = 11.32

Goal X = 3.80 + 4.30 + 3.34 = 11.52

Final Rank

Highest Priority	Goal III M	9.55
	Goal I	10.13
	Goal III V	10.22
	Goal II	10.22
	Goal IV	10.63
	Goal V	10.84
	Goal VIII	10.93
	Goal IX	11.32
	Goal X	11.52
	Goal VI	11.87
Lowest Priority	Goal VII	12.60

Q-SORT TALLY FORM

	STATEMENT NUMBER	1 EXT IMP	2 VERY IMP	3 IMP	4 SLGT IMP	5 UN IMP	FP WT	STATEMENT NUMBER	1 EXT IMP	2 VERY IMP	3 IMP	4 SLGT IMP	5 UN IMP	FP WT	
I	26							5							VI
	35							18							
	37							25							
	43							39							
	TTL							TTL							
	WT/TL							WT/TL							
II	6							10							VII
	11							16							
	31							24							
	41							29							
	TTL							TTL							
	WT/TL							WT/TL							
III V	21							3							VIII
	27							7							
	36							19							
	44							42							
	TTL							TTL							
	WT/TL							WT/TL							
III M	2							4							IX
	9							17							
	13							28							
	38							32							
	TTL							TTL							
	WT/TL							WT/TL							
IV	1							12							X
	8							14							
	23							22							
	40							33							
	TTL							TTL							
	WT/TL							WT/TL							
V	15														
	20														
	30														
	34														
	TTL														
	WT/TL														

1=Extremely Important	2=Very Important	3=Important	4=Slightly Important	5=Unimportant
Weight	Weight	Weight	Weight	
1.	12.	23.	34.	
2.	13.	24.	35.	
3.	14.	25.	36.	
4.	15.	26.	37.	
5.	16.	27.	38.	
6.	17.	28.	39.	
7.	18.	29.	40.	
8.	19.	30.	41.	
9.	20.	31.	42.	
10.	21.	32.	43.	
11.	22.	33.	44.	

	Weight		Weight		Weight		Weight
I	26 -	III M	2 -	VI	5 -	IX	4 -
	35 -		9 -		18 -		17 -
	37 -		13 -		25 -		28 -
	43 -		38 -		39 -		32 -
	TTL -		TTL -		TTL -		TTL -
II	6 -	IV	1 -	VII	10 -	X	12 -
	11 -		8 -		16 -		14 -
	31 -		23 -		24 -		22 -
	41 -		40 -		29 -		33 -
	TTL -		TTL -		TTL -		TTL -
III V	21 -	V	15 -	VIII	3 -		
	27 -		20 -		7 -		
	36 -		30 -		19 -		
	44 -		34 -		42 -		
	TTL -		TTL -		TTL -		

EQA
Q-Sort Activity

Directions:

Read each statement and indicate the level of importance for students YOU place upon the statement.

1=Extremely Important

2=Very Important

3=Important

4=Slightly Important

5=Unimportant

.....

Eg. Statement 2

(The student) can perform, with accuracy, basic mathematical operations using whole numbers and decimals.

1 (2) 3 4 5

Very
Important

1

Feels that classes, homework, tests and school rules are an important and a necessary ingredient to the process of formal education.

1 2 3 4 5

2

Can perform with accuracy, basic mathematical operations, using whole numbers and decimals.

1 2 3 4 5

3

Believes that work is necessary and that pride in a job well done can be very rewarding.

1 2 3 4 5

4

Attends concerts; reads books; observes artists painting.

1 2 3 4 5

5

Eats a balanced diet, keeps clean and well groomed.

1 2 3 4 5

6

Accepts the handicapped as friends; helps the handicapped with schoolwork, etc.

1 2 3 4 5

7

Knows about job opportunities, job skills and educational requirements for various jobs.

1 2 3 4 5

8

Considers learning a valuable and lifelong activity, reads at home, volunteers for projects, etc.

1 2 3 4 5

9

Can identify geometric concepts such as parallel lines, perpendicular lines, right angles, squares, rectangles, etc.

1 2 3 4 5

10

Performs or conducts experiments in the social, natural or physical sciences.

1 2 3 4 5

11

Accepts as friends, and enjoys the company of those of another race; shares personal articles, etc.

1 2 3 4 5

12

Avoids the use of aggressive or withdrawing reactions to change, such as refusal to do homework if the teacher will not release the class to decorate the gym.

1 2 3 4 5

13

Can read a graph or chart (such as appearing in a newspaper) and interpret the data presented.

1 2 3 4 5

14

Maintains an awareness of changing events; keeps abreast of current school, community and national problems.

1 2 3 4 5

15

Shows concern for feelings of others, helps new students make friends, protests against discrimination.

1 2 3 4 5

16

Performs in a play, sport or musical group.

1 2 3 4 5

17

Enjoys visiting a museum or art gallery, seeks the opportunity to attend performances at theater or ballet.

1 2 3 4 5

18

Refrains from taking drugs except when they are prescribed by a physician.

1 2 3 4 5

19

Realizes that careers or good jobs do not just happen but should be carefully planned for.

1 2 3 4 5

20

Honors self-made commitments, accepts mistakes, returns found articles.

1 2 3 4 5

21

Speaks well, good control of the language, at ease when talking in a group.

1 2 3 4 5

22

Refrains from long periods of being upset or depressed as a result of change, such as a new teacher or revised course requirements.

1 2 3 4 5

23

Considers teachers knowledgeable and interested in students' welfare.

1 2 3 4 5

24

Writes original poems, essays, articles or plays.

1 2 3 4 5

25

Is willing to take proper corrective actions when physically ill or injured.

1 2 3 4 5

26

Shows determination and self-worth; has a good opinion of self.

1 2 3 4 5

27

Exhibits skill in spelling; possesses clear, legible handwriting.

1 2 3 4 5

28

Believes that scientists are educated, skilled, hard-working, honest professionals concerned for the welfare of man.

1 2 3 4 5

29

Paints, draws or is involved in such things as sculpturing or photography.

1 2 3 4 5

30

Demonstrates behaviors that have no ill effects on others; refrains from responses in class discussions, or when with friends, that would embarrass others.

1 2 3 4 5

31

Accepts as friends those whose wealth is much different.

1 2 3 4 5

32

Indicates an appreciation of man's achievements in the arts and sciences; believes artists contribute much to the world.

1 2 3 4 5

33

Takes positive steps, such as reading appropriate material or seeking additional information, prior to moving to a new location.

1 2 3 4 5

34

Refrains from unlawful acts, operates within the system to change rules.

1 2 3 4 5

35

Has feeling of success in schoolwork; enjoys being called on in class.

1 2 3 4 5

36

Writes well; presents ideas in a clear, concise, grammatically correct manner.

1 2 3 4 5

37

Demonstrates ease in making friends; able to mix well with others.

1 2 3 4 5

38

Can identify a problem to be solved, collect data and use the appropriate mathematical operation to solve the problem.

1 2 3 4 5

39

Refrains from taking unnecessary or potentially harmful risks; would not play "chicken."

1 2 3 4 5

40

Enjoys going to school, considers school subjects worthwhile.

1 2 3 4 5

41

Accepts as friends those whose ideas about God are very different; protests prejudicial treatment by others, etc.

1 2 3 4 5

42

Knows the type of tasks performed by workers in the various professions and occupations.

1 2 3 4 5

43	44
Believes that success is dependent upon effort; that things well planned generally work out.	Can read, understand and react appropriately to written materials.
1 2 3 4 5	1 2 3 4 5